

What is claimed is:

1. A urine detection network, comprising:  
a first detector configured to service a first region of a urine collection article; and  
at least a second detector operatively coupled to the first detector and configured to service a second region of the urine collection article;  
wherein the first detector and the second detector are collectively configured to indicate a fluid distribution of the urine collection article.
2. The urine detection network of claim 1, wherein the urine detection network has a net capacitance derived from at least a first capacitance of the first detector and a second capacitance of the second detector, and wherein the net capacitance of the urine detection network indicates fluid distribution of the urine collection article.
3. The urine detection network of claim 2, wherein the first capacitance ranges between a predetermined minimum and a predetermined maximum.
4. The urine detection network of claim 2, wherein the first capacitance ranges between a predetermined minimum and a value outside of a predetermined range.
5. The urine detection network of claim 2, wherein the first capacitance ranges between a predetermined maximum and a value outside of a predetermined range.

6. The urine detection network of claim 1, wherein the urine detection network has a net inductance derived from at least a first inductance of the first detector and a second inductance of the second detector, and wherein the net inductance of the urine detection network indicates fluid distribution of the urine collection article.

7. The urine detection network of claim 6, wherein the first detector includes a coil shaped conductive element.

8. The urine detection network of claim 1, wherein a characteristic of the first detector measurably changes to a first value in response to a first threshold of urine wetting the first region of the urine collection article, and wherein a characteristic of the second detector measurably changes to a second value in response to a second threshold of urine wetting the second region of the urine collection article.

9. The urine detection network of claim 8, wherein the first value is different than the second value.

10. The urine detection network of claim 9, wherein the first value is a first capacitance and the second value is a second capacitance.

11. The urine detection network of claim 8, wherein the first threshold and the second threshold are substantially equal.

12. The urine detection network of claim 8, wherein the first threshold is different than the second threshold.

13. The urine detection network of claim 8, wherein the first threshold is a nominal amount of urine.

14. The urine detection network of claim 8, wherein the first threshold is more than a nominal amount of urine.

15. The urine detection network of claim 8, wherein the characteristic of the first detector includes a capacitance of the first detector, and wherein the characteristic of the second detector includes a capacitance of the second detector.

16. The urine detection network of claim 15, wherein a dielectric property of the first detector measurably changes in response to a first threshold of urine wetting the first region of the urine collection article, and wherein a dielectric property of the second detector measurably changes in response to a second threshold of urine wetting the second region of the urine collection article.

17. The urine detection network of claim 1, wherein the first detector includes a sensitizer.

18. The urine detection network of claim 17, wherein the sensitizer includes a dry ionized substance.

19. The urine detection network of claim 1, further comprising an interface module in electrical communication with the first detector and the second detector.

20. The urine detection network of claim 19, wherein the interface module includes an energy converting module configured to predictably wirelessly interact with a monitoring subsystem based on the fluid distribution of the urine collection article.

21. The urine detection network of claim 19, wherein the interface module includes a connection node from which a characteristic of the urine detection network can be directly measured.

22. The urine detection network of claim 21, wherein a net capacitance of the urine detection network can be directly measured at the connection node.

23. The urine detection network of claim 21, wherein a net inductance of the network can be directly measured at the connection node.

24. The urine detection network of claim 21, wherein the interface module is configured for capacitive coupling with a monitoring subsystem.

25. The urine detection network of claim 1, wherein an energy exchange pattern of the urine detection network corresponds to the fluid distribution of the urine collection article.

26. The urine detection network of claim 1, wherein the first detector and the second detector are distinguishable.

27. The urine detection network of claim 26, wherein the first detector has a first capacitance when the first region is wetted, and wherein the second detector has a second capacitance, different than the first capacitance, when the second region is wetted.

28. The urine detection network of claim 1, further comprising a flexible substrate on which the first detector and second detector are arranged.

29. The urine detection network of claim 28, wherein the substrate is configured for incorporation into a diaper.

30. The urine detection network of claim 1, wherein the first detector and the second detector are constituent elements of a single conductive element.

31. The urine detection network of claim 30, wherein the single conductive element is formed from a generally planar sheet material.

32. The urine detection network of claim 30, wherein folding a portion of the single conductive element creates an LC circuit.

33. The urine detection network of claim 1, wherein the first detector and the second detector are formed by shaping a wire.

34. The urine detection network of claim 1, wherein the first detector and the second detector are formed by shaping two conductive wires that are separated by dielectric material.

35. The urine detection network of claim 1, wherein a gap between conductive elements of the urine detection network is shaped by applying pressure on a binder layer.

36. A urine detection network, comprising:  
a first detection means for servicing a first region of a urine collection means; and  
at least a second detection means for servicing a second region of the urine collection means;

wherein the first detection means and the second detection means collectively indicate a fluid distribution of the urine collection means.

37. A fluid detection network, comprising:  
a plurality of detectors positioned to service a test area, wherein a characteristic of a detector predictably changes when the detector is exposed to a predetermined threshold of fluid;

a bus operatively coupled to each detector; and  
an interface module operatively coupled to the bus, wherein the interface module is configured to convey a network characteristic derived from the characteristic of each detector and signaling a fluid distribution of the test area.

38. The fluid detection network of claim 37, wherein the characteristic of each detector is the capacitance of each detector, and wherein the network characteristic is the net capacitance of the fluid detection network.

39. The fluid detection network of claim 38, wherein a dielectric property of a detector measurably changes in response to a threshold of fluid wetting a region of the test area serviced by the detector.

40. The fluid detection network of claim 37, wherein at least one of the plurality of detectors is positioned to service a region different than a region serviced by another of the plurality of detectors.

41. The fluid detection network of claim 37, further comprising a flexible substrate on which the plurality of detectors are arranged.

42. The fluid detection network of claim 41, wherein the substrate is configured for incorporation into a diaper.

43. The fluid detection network of claim 37, wherein the interface module includes an energy converting module configured to predictably influence an induced energy field based on the fluid distribution of the test area.

44. The fluid detection network of claim 37, wherein the interface module is one of a plurality of interface modules operatively coupled to the bus, wherein each of the plurality of interface modules is located for access from a different position.

45. A method of forming at least a portion of a urine detection network that includes a plurality of detectors, each having a characteristic that changes responsive to exposure to urine, and wherein the urine detection network has a net characteristic derived from the individual characteristics of the plurality of detectors, the method comprising:

providing a sheet material including a binder layer and a conducting layer;

scoring at least the conducting layer to form a conductive pattern that includes adjacent traces separated by a gap distance; and

stamping the conductive pattern with a shaper so as to deform the binder layer and the conducting layer to increase the gap distance separating adjacent traces of the conductive pattern.



46. The method of claim 45, further comprising applying a cover layer to the sheet material.

47. The method of claim 46, wherein the cover layer is applied before stamping the conductive pattern.

48. A diaper, comprising:  
an absorbent core for containing excreted urine; and  
a urine detection network including a plurality of detectors positioned adjacent the absorbent core, wherein a characteristic of a detector predictably changes when the detector is exposed to a predetermined threshold of the excreted urine.

49. The diaper of claim 48, further comprising an interface module operatively coupled to the plurality of detectors, wherein the interface module is configured to convey a network characteristic derived from the characteristic of each detector and signaling a urine distribution within the absorbent core.

50. The diaper of claim 48, wherein the plurality of detectors are positioned adjacent different regions of the absorbent core, so as to service different regions of the diaper.

51. A urine detection system, comprising:  
a urine detection network servicing a urine collection article, the urine detection network including:  
a first detector configured to service a first region of the urine collection article,  
and  
at least a second detector operatively coupled to the first detector and configured to service a second region of the urine collection article,  
wherein the urine detection network has a net characteristic derived from at least a first characteristic of the first detector and a second characteristic of the second detector,  
and wherein the net characteristic of the urine detection network indicates fluid distribution of the urine collection article; and  
a monitoring subsystem configured to determine the net characteristic of the urine detection network.